

AUSTRALASIAN CERATOPOGONIDAE (DIPTERA, NEMATOCERA).

PART VIII: A NEW GENUS FROM WESTERN AUSTRALIA ATTACKING MAN.

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(Five Text-figures.)

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Synopsis.

This paper describes a new genus and species of sandfly (*Austroconops mcmillani*, gen. et sp. nov.) collected by B. McMillan near Perth in Western Australia. In its diurnal biting habit it resembles *Leptoconops* and *Lasiohelea*, but morphologically it shows some affinity to both *Leptoconops* and *Culicoides*.

Genus AUSTROCONOPS Wirth and Lee, gen. nov.

Generic Diagnosis.

Female: Eyes densely hairy, contiguous for a short distance above the antennae; vertex with a sparse row of hairs arching over eyes. Antennae 15-segmented; first segment triangular, in head capsule; second and third large and globular, second larger than third; remaining flagellar segments 4-15 almost uniform in size; short basal verticils present on segments 3-15. Clypeus small, with four long hairs; proboscis short, 0.75 as long as height of eye, mouth parts well developed, mandible with six large teeth distally. Palp four-segmented, the usual fourth and fifth segments reduced to a single, long, curved segment; third segment swollen with a long, open, sensory area along mesal surface extending around to ventral surface anteriorly.

Thorax robust; humeral pits well developed. Legs unmodified, unarmed, with short hairs; hind tibial spur plumose, tibial comb of four small spines. Hind basitarsus 1.25 times length of second segment; fourth cylindrical; fifth unarmed, with small, sharp, equal claws; empodium rudimentary.

Wing with venation as figured; costa long, to 0.83 of wing length; radial veins, base of media and r-m strong; r-m very oblique, forming almost a straight line with base of media and posterior side of radial cells; two broad radial cells present, second 2.2 times as long as first; media very faint in middle section of wing, where it forms a long petiole to the medial fork, the fork a little posterior to the level of the medio-cubital fork; anal angle broad, alula fringed, fringe of posterior wing margin a simple row of alternating long and short hairs; macrotrichia absent, microtrichia numerous, erect and imparting a milky appearance to wing.

Abdomen short, stout; apex blunt with short, inconspicuous cerci. Two large subequal, subspherical spermathecae and a very small, oval, vestigial one present, all without sclerotized necks.

Male: Unknown.*Genotype*: *Austroconops mcmillani*, n. sp., the only known species.

AUSTROCONOPS MCMILLANI Wirth and Lee, n. sp. (Text-figures 1-5.)

Description.

Length of wing 0.83 mm. (from basal arculus).

Thorax and abdomen jet black; head and its appendages, legs and halteres dark brownish black; wings dull milky white to grey with anterior veins blackish. Mesonotum with sparse vestiture of erect, short, bristly, blackish hairs; scutellum

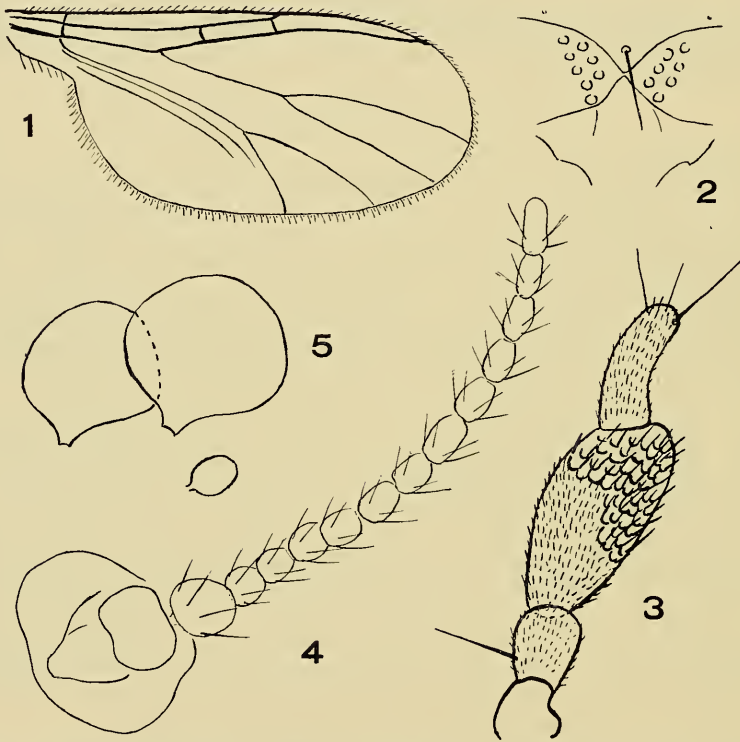
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bare except for a lateral pair and two submedian pairs of long black hairs. Legs with short black hairs.

Antennal segments 4-15 in proportion of 8-9-10-10-10-10-10-10-10-12-16, antennal ratio (combined lengths of segments, 11-15 divided by 4-10) 0.87; breadth of segments decreasing from 9 units at base to 7 units at apex of flagellum, last segment without terminal nipple. Segments of palp in proportion of 5-8-28-12, third segment 2.5 times as long as its greatest breadth. Legs with segments from femur distad in proportion of 45-50-25-12-8-5-8 on forelegs, 50-50-25-12-8-5-8 on midlegs and 60-55-25-20-8-5-8 on hindlegs.

Types.—Holotype female, National Park, Perth, Western Australia, 21:xii:1954, B. McMillan, in School of Public Health and Tropical Medicine, University of Sydney. Paratypes: 11 females (on slides), 5 females (pinned), same data as holotype; 9 females



Text-figures 1-5.—1, wing; 2, interorbital area; 3, palp (ventral view); 4, antenna; 5, spermathecae. (Fig. 1, $\times 75$ approx.; figs. 2, 4, 5, $\times 300$ approx.; fig. 3, $\times 500$ approx.)

(on slides), Yanhep Caves Park, Western Australia, 23:xii:1954, B. McMillan (biting on eyelids, 1300 hrs.). Paratypes in United States National Museum, British Museum, C.S.I.R.O., Canberra, B. P. Bishop Museum, Hawaii, and Western Australian Museum, Perth.

Distribution.—This species is also known from the following localities in Western Australia: 10 miles S.E. Darban, 29:i:1953, J. H. Calaby (11 females pinned); Armadale, 7:i:1934, K. R. Norris (two females on slide).

Discussion.—The basic affinity of the genus *Austroconops* seems to be closest to *Culicoides* in the Ceratopogoninae but several characters strongly suggest an affinity with *Leptoconops*. Its affinities may be summarized as follows:

(a) With *Leptoconopinae*. Palp with incrassate third segment bearing the sensory organ and fourth and fifth segments combined in one slender segment; third antennal segment large and swollen, nearly as large as second segment; wing with macrotrichia

entirely absent, microtrichia similar to those of *Leptoconops*, dense, giving the wing a milky appearance; humeral pits present; two large spermathecae and a minute third one; claws small and equal; empodium vestigial; colour black; blood-sucking habit diurnal. However, all *Leptoconopinae* have antennae with less than 15 segments (12-14) and the radial field of the wing is drastically reduced.

(b) With *Ceratopogoninae*. Basically the wing venation is similar to that of *Stilobezzia*, with long costa and radial cells and media with long petiole; the absence of macrotrichia on the wing, with development of microtrichia, relates it to *Ceratopogon*. The blood-sucking habit, presence of humeral pits, antennal segments without sculpturing, and the small, equal claws without empodium place *Austroconops* closest to *Culicoides* in the tribe *Culicoidini*. However, no *Ceratopogoninae* have palps of the form common to *Austroconops* and *Leptoconops*. *Culicoides* also differs in that the wing is more or less hairy and usually with a pattern and the tarsal ratio approximately 2.

Final disposition of the genus *Austroconops* would best await the discovery of the male or, perhaps better still, the immature stages.

